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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,166	07/25/2003	Charles E. Price	046478/263692	2507

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EXAMINER
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MARCANTONI, PAUL D

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/627,166

Applicant(s)

PRICE, CHARLES E.

Examiner

Paul Marcantoni

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-5,8-14,17,18,20-22,25-27,29,32-34,36,37 and 39-46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,8-14,17,18,20-22,25-27,29,32-34,36,37, and 39-46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

The applicants' amendment and response of 5/30/06 has been considered but is not persuasive. The applicants' amendment also necessitated new grounds of rejection:

**Request to Submit Substitute Specification:**

The request is respectfully withdrawn as it would appear it is permissible to submit tables separately from the specification as figures or drawings as presented in applicants' remarks. However, should this application be eventually allowed and the printer deems this a problem (also known as "printer rush") and will not allow it to pass to issue, applicants would be contacted and required to provide a substitute specification. It is hoped that this will not be necessary.

**35 USC 112 First Paragraph:**

Claims 1, 3-5, 8-14, 17, 18, 20-22, 25-27, 29, 32-34, 36, 37, and 39-46 are rejected under the first paragraph of 35 USC 112 as they are not commensurate with an enabling disclosure nor do they enable one of ordinary skill of the art to make or practice their invention.

The applicants have now provided the amounts of bottom ash and Portland cement in their claims with the *ratio of bottom ash/cement between 2:1 and 2:3 by weight*. However, applicants have not provided the critical amounts of water (ie water/cement ratio) that allows applicants to obtain their high compressive strengths.

Applicants also do not provide the specific amounts of coarse portion (aggregate) and fine portion (aggregate) bottom ash critical to obtain their high compressive strengths in their claims. According to their data tables, applicants use a specific

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amount of coarse and fine portions yet this is not part of any pending claims (ie see claim 1, it is not present). Without this critical amount of coarse and fine portion of bottom ash, one of ordinary skill in the art would not be enabled to obtain applicants' high compressive strengths.

It is also noted that applicants are still silent with respect to the specific particle size range for coarse and fine aggregate bottom ash used in their Figures/Tables. They still have not addressed what specific particle size range was used for coarse bottom ash and what specific particle size range was used for fine bottom ash.

Also, confusion ensues as applicants have taken what they define as the coarse portion as between 0.75 to 0.003 inches particle size and fine portion of particle size less than 0.006 inches. It is evident that the coarse and fine portions overlap. The coarse portion can potentially be the same as the fine portion as both can have a particle size of, for example, 0.003 inches according to applicants defined range of what they deem coarse and fine portions. Having said that, again it is noted that applicants Tables/Figures are vague because it is unclear what particular particle size or ranges of particle size were even used for the examples? The original disclosure is silent in that regard and one of ordinary skill in the art would not have any idea how to determine what actual particle size range was even used for the coarse portion and fine portion in applicants' examples.

**35 USC 112 Second Paragraph:**

Claims 1, 3-5, 8-14, 17, 18, 20-22, 25-27, 29, 32-34, 36, 37, and 39-46 are rejected under the second paragraph of 35 USC 112 as failing to set forth the subject matter applicants regard as their invention.

The terms "an effective amount" (of bottom ash) can now be deleted to streamline applicants' claim. They already provide a range of amounts of cement to bottom ash so these terms applicants may wish to consider deleting. The same is the case for "an effective amount" (of Portland cement). Deletion of these terms may be considered.

The terms "effective amount" of water is still indefinite throughout the applicants' claims. Applicants high compressive strengths require specific ranges of amounts of water/cement and outside this specific range applicants will not obtain their high compressive strengths. The term effective does not necessarily mean the high compressive strengths as disclosed in the Figures/Tables or other dependent claims and it is improper for applicants to read the limitations of the specification or dependent claims into the independent claims. This would have been correctable by adding the specific water to cement/ratio of 0.35 to 0.78 from their examples yet applicants have not inserted this limitation into their claims.

**Objection to Original/Substitute Specification or Original Disclosure:**

The original disclosure is objected to because applicants do not provide the specific particle size for what they used for coarse aggregate and fine aggregate to obtain their compressive strengths in Figures 7A, 7B, 8A, 8B, and 9A. This would be resolved if applicants can provide the specific particle size for each actually used for

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testing in the examples to remove this objection. Note that the particle sizes must already be listed in the original disclosure because presentation of particle sizes not within the literal teaching of the original disclosure can be construed to be new matter. It is also noted as was previously stated the fine and coarse portions can potentially overlap. Both are defined within specific ranges and both can even have the same particle size of, for example, 0.003 inches which adds more confusion as to what applicants actually used in their examples. This critical information regarding specific particle size of coarse and fine particle size is an omission that would not enable one of ordinary skill in the art to make or practice applicants' claimed invention.

**New Matter:**

The applicants amendment necessitated this new grounds of rejection. The limitation "less than 0.006 inches" regarding particle size of the fine portion would appear to be new matter because applicants specification on page 5, lines 28-30 require the term –about-- . The specification states –less than about 0.006 inches---. While the applicants removal of the indefiniteness issue (choosing one of the two words of "between about" as the phrase together is indefinite, applicants chose –between) was resolved for coarse portion, the fine portion still requires the term –about-- . This is not a recommendation or suggestion but only an observation of what is required by applicants' original specification.

**35 USC 102/103 Rejection:**

Claims 1, 3-5, 8-14, 17, 18, 20-22, 25-27, 29, 32-34, 36, 37, and 39-46 are rejected under 35 USC 102 (a and b) as anticipated by, or in the alternative, under 35 USC 103(a) as obvious over Hopkins '075, Nisnevich et al. '751, Shulman '547 B2, Doty et al. '446, Brewer et al. '950 or '261, Jones '973, Merkley et al. '744 B2, '745 B2, '246 B2, or '883 A1, Lee et al. (KR 2002055481-abstract only), Naik et al. (abstract only), Lai (abstract only), or Lim (KR 2002006569-abstract only).

**Response to Applicants' Arguments:**

**35 USC 112 First Paragraph:**

It was stated above that applicants are still silent with respect to the specific particle size range for coarse and fine aggregate bottom ash used in their Figures/Tables. They still have not addressed what specific particle size range was used for coarse bottom ash and what specific particle size range was used for fine bottom ash.

Also, confusion ensues as applicants have taken what they define as the coarse portion as between 0.75 to 0.003 inches particle size and fine portion of particle size less than 0.006 inches. It is evident that the coarse and fine portions overlap. The coarse portion can potentially be the same as the fine portion as both can have a particle size of, for example, 0.003 inches according to applicants defined range of what

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they deem coarse and fine portions. Having said that, again it is noted that applicants Tables/Figures are vague because it is unclear what particular particle size or ranges of particle size were even used for the examples? The original disclosure is silent in that regard and one of ordinary skill in the art would not have any idea how to determine what actual particle size range was even used for the coarse portion and fine portion in applicants' examples.

The applicants state there is no problem with respect to 35 USC 112 first paragraph. The examiner respectfully disagrees for these reasons stated above. The applicants further point out that they do have support for specific particle sizes for coarse and fine particle sizes such as in Figure 7C showing the sieve size (particle size) of the bottom ash from  $\frac{3}{4}$  of an inch up to 200 mesh. In rebuttal, while it is agreed that applicants have support for the particle sizes they use for their different mixes (ie Mixes 1 through 7 in Figure 7C), applicants ranges for "coarse" and "fine" still overlap. Applicants define fine portion as *less than 0.006 inches (150 microns)* and coarse portion as 0.75 inches to 0.003 inches (76.2 microns). In Figure 7C, for example, what is the dividing point (see Sieve Size) between what was defined as coarse and fine? If this overlap issue between coarse and fine particle size can be resolved and which particle sizes were used as coarse and fine, this rejection will be withdrawn.



**35 USC 112 Second Paragraph:**

The examiner has pointed out above that the use of the terms effective amount for bottom ash and cement is superfluous and can be removed. Applicants can leave it in the claim but the effective amount is already indicated by the range of cement and bottom ash now in the claims.

The term “effective amount” remains indefinite for water content however. Applicants do not have support for any amount of water so they were encouraged in the first office action to provide a water/cement ratio in the claim. The applicants do not have support for any range of amounts of water to obtain their high compressive strengths but only those provided in their examples.

The applicants have defined their cement as Portland cement.

Objection/Rejection now withdrawn.

The rejection over the term “portion” (coarse and fine) is withdrawn as applicants to some extent can be their own lexicographer provided the term is not repugnant to its actual meaning. Nevertheless, aggregate is the conventional term known in the art.

The applicants did not agree that the defining of coarse and fine portion is provided in the claims and did not have to be in the claims though they amended to now include definitions of what is coarse and fine portions. The examiner respectfully acknowledges the amendment in the claims yet maintains that it is improper to read the limitations of the specifications into the claims. The amendment further defining coarse and fine portions for bottom ash is a step in the right direction. However, the examiner has pointed out that while applicants now define coarse and fine in the claims for bottom

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ash, the coarse particle size range and fine particle size range still overlaps so it is unclear how to distinguish between the two. A bottom ash sample added to cement can have a particle size of 0.003 inches and still meet applicants' definition of coarse and fine aggregate so herein lies the problem.

The examiner maintains that "between about" are contradictory terms because about permits some tolerance around endpoints versus between which provides no such tolerance. It is suggested that both terms not be used together in future written disclosures because of the contradiction in terms. Nevertheless, the amendment removing one of the terms (about) is acknowledged.

The examiner withdraws his rejection to *consisting of* but notes that since applicants use comprising, any prior art that still teaches cement, bottom ash, and other components not contemplated by applicants' claimed invention can still be used as prior art in a rejection of applicants' claims.

**Objection to Specification/Original Disclosure:**

This objection is maintained for the reasons already explained. The coarse and fine portions of bottom ash by applicants own definition overlap so it is not understood how to distinguish between both particle sizes. The particle size of coarse and fine bottom ash can potentially be the same by applicants own definition of both terms including a value of 0.003 inches. It is also noted that applicants do provide Tables/Figures such as Figure 7C with specific breakdown of particle sizes for bottom ash used in each mixture with cement and water to obtain a high compressive strength product. However, this line of demarcation, in for example Figure 7C is not entirely

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clear. What is the particles in Figure 7C, for example that were deemed coarse and fine? It is hoped that this objection can potentially be overcome based upon applicants' response but again the problem is the overlap of coarse and fine bottom ash particle sizes as defined by applicants for their invention.

The applicants have argued their newly added limitation to their independent claims such as claim 1 of adding specific ranges of particle sizes of coarse and fine portions of fly ash now teach over the prior art. The examiner disagrees. There is indefiniteness and lack of clarity with respect to applicants' defined ranges of coarse and fine because they overlap and can potentially be the same. Thus, it is not seen how applicants can define over the prior art when their own coarse and fine portions are not clearly defined and indistinguishable. The applicants also mention other additives (ie silica fume, fly ash, polystyrene, blast furnace slag) but applicants are reminded this cannot be a point of distinction because they use "comprising" claim language which would not exclude these other components of the prior art. Had applicants used more closed claim language such as consisting of, the examiner would agree but they did not do so. This is not a suggestion but a commentary on the present claim status.

It is the examiner's position that he has made a good faith effort to address all applicants' remarks and any new rejections were necessitated by applicants' amendment of their claims.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Marcantoni whose telephone number is 571-272-1373. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Paul Marcantoni", with a stylized flourish at the end.

Paul Marcantoni  
Primary Examiner  
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